



Roadmapping demand-side policy instruments to
accelerate market development of Plus Energy Buildings

National Implementation Plan for Build the Future Roadmap

Annex 2

National Implementation Plan

Build the Future - Roadmap

Finland

National Implementation Plan for Build the Future Roadmap

1. Introduction

a. Subject of Roll-out plan Finland

via FInZEB to PEB houses in Cold climate

b. Overall Objective of the Roll-out plan Finland

In Finland have been research and development of building energy efficiency last decades. For example there have been many projects of low-energy and passive energy buildings. Newest have been nearly zero energy buildings (FInZEB) in Finland which have been started by Environment Ministry of Finland. Background of that were Finland follow up EU directives of energy and building sector, for example Energy Performance of Buildings Directive (EPBD), Renewable Energy Directive (RES) and Energy Efficiency Directive (EED).

During FInZEB development have defined national method of interpretation to EPDB. For example, buildings should have very high energy efficiency, null or very low amount of energy that should produce widely using renewable energy produced in the spot or near buildings.

Finland located in northern part of Europe. Finnish latitude impacts to constructions and energy efficiency of buildings. Structures should isolate well, windows U-value is very low. Heating systems needed buildings. During winter time buildings take more heating energy than buildings in southern countries. But during summer time also in Finland can have same warm and hot conditions than in southern Europe. Improving energy efficiency in buildings and cost-effective solutions should define in local conditions.

In Finland have some legal challenges for example of bidirectional power-distribution grid. At this time consumer in Finland can't sell extra power to grid.

Following EPBD Ministry of Environment in Finland have made decision that all new public buildings should be near zero energy after 31.12.2018. Also new private owned buildings should be near zero energy after 31.12.2020. Preparation phase of statutes of energy efficiency of near zero buildings starts during 2015. In 2016 new statutes will come to comment in building sector.

Main objective for Finland in PEB roll-out plan is:

- define national calculation method for PEB-related building in Finnish (cold) climate
- R&D and experiment construction and buildings using PEB-related structures

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- define time scale when in Finland start use PEB-related method in public and private sector

2. Demand-Side Target Groups – Occupants, market actor, etc

a. Key target groups

- Public – Private – residential buildings

At first phase, main target group is new and renovated public owned buildings especially in southern part of Finland. Best way to get knowledge of PEB is to build up experiment test areas or buildings where are smart energy grids and on-site renewable energy raw-material sources.

Also if some construction companies take PEB buildings or PEB-related technologies under production it might be one possibility to launch PEB to Finland. It is possible to have new district of cities to PEB-related areas.

3. Challenges, Obstacles, Potentials in Finland

Cold climate can cause challenges of using PEB houses in Finland. One of majority task is to define nationally what PEB mean in our climate conditions. What are for example E-values in PEB-related structures in different type of buildings. On building Physics site it need study how present structures will work in PEB houses in Finnish climate. Is there potential research partners (institutes, companies etc.) who will made basic study of PEB-related structures and buildings. Finnish quite small construction market is also challenging to our operator.

At this moment one obstacle in Finland is that there is not bidirectional power-distribution grid. First steps to that have already taken after wind-power and sun electric system have become more common also in private sector. Also Finnish construction market are now quite silence depend on economy situation.

Potential is that in Finland have already taken under work near zero energy buildings. It is easy to continue PEB-related houses after that phase. Also global climate warming can see as potential to PEB also in northern countries.

4. Levels for activities

a. National level



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b. Regional level

In national level, Finland should start after FInZEB work which is now almost done, next step to PEB-related buildings. During ongoing FInZEB process it need to try to add PEB-related ideologies to authorities and policy-makers. First it need to present PEB-related idea to Ministry of Environmental in Finland and also to main actors in energy consultant and construction sector.

In regional level, there can start experimental tests and construction to made first PEB houses in cold climate conditions. One possible idea is to push up idea to Finnish Housing Fairs to consturct PEB-related area to housing fair in future. That needs negotiations with Housing Fair actors.

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5. Demand-side policy instruments

a. Demand-side policies already in place in the country FINLAND

Country	Region	Area of demand side instrument/policy	Name of instrument	Responsible Organisation	General description
Finland	Finland	Funding policies	Energy support	Ministry of employment and economy	Economy can grant energy support to companies, communities and other organisations, for climate and environment investments and surveys that promote: <ol style="list-style-type: none"> 1) the production or use of renewable energy 2) energy conservation or efficient energy production or use 3) the reduction of environmental hazards arising from energy production or consumption.
Finland	Finland	Funding policies	Energy support	Ministry of employment and economy	So called ESCO-service energy support to companies, communities and other organisations max. 15 % of costs if those have made contract of ESCO (energy saving).

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6. Regional Implementation of Roadmap (roll-out plan) FINLAND

Roll-out plan for DEMAND-SIDE INNOVATION POLICIES on PEB in FINLAND						
Implementation of Demand-Side policy Instruments (DSI)	2015	2016	2017	2018	2019	Regional Output by 2020
DSI1 Two-stage Incentive Programme		Seminars and negotiations with authorities and main actors	Seminars and negotiations with authorities and main actors	preparation PEB to national building regulations	preparation PEB to national building regulations	readiness of PEB in national building regulations
DSI2 Multistage Voucher Scheme			first PEB projects and R&D start in Finland	PEB oriented project in cold climate	PEB oriented project in cold climate	readiness of PEB included Housing Fairs in Finland
DSI3 Local PEB model houses			head hunting potential companies for PEB	first prefabricated PEB houses in Finland	testing PEB houses in-situ conditions in cold climate	readiness of PEB included Housing Fairs in Finland
DSI4 Online platform "PEB in EU"	take part of PEB in EU content	take part of PEB in EU content	take part of PEB in EU content	take part of PEB in EU content	take part of PEB in EU content	Finnish PEB „show case“ library
DSI5 PEB topics in education		plan PEB-related topics, made in project material	Piloting educational programs.	Piloting educational programs	Piloting educational programs	Readiness for permanent PEB-related education in different levels (high schools, vocational schools and universities)
DSI6 Financing Tools for PEB projects				Specific financing tools from EU and national funding	Specific financing tools from EU and national funding	Specific financing instruments for PEB projects evaluated and mainstreamed